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09/840,011	04/20/2001	Christopher Barron	133031-0003	3074

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EXAMINER	
LUK, LAWRENCE W	

ART UNIT	PAPER NUMBER
2838	

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/840,011	BARRON, CHRISTOPHER	
	Examiner	Art Unit	
	Lawrence W Luk	2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 July 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *29-34* is/are allowed.

6)☒ Claim(s) *1-19,22 and 26-28* is/are rejected.

7)☒ Claim(s) *20,21 and 23-25* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 2, 6-10, 12, 13, 15, 16 and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mann et al. (4,082,097) in combination with Umeki et al. (5,998,967).

In regard to claims 1, 12, 13 and 15, Mann et al. diaclose in each of cell (battery pack) bridge connected around a first cell, including a bypass resistor in series with a switch (refer to Fig.1 and col.5, lines 3-6); and a cell monitor/regulator having an input connected across the first cell for measuring a charge of the first cell, wherein the cell monitor/regulator closes the switch when a charge of the first cell equals a maximum value (refer to col.1 68 to col.2, lines 6), except for a battery pack having a plurality cells arranged in a series.

Umeki et al. disclose in column 4, lines 44-66, a battery pack having a plurality cells arranged in a series.

It would have been obvious to person having ordinary skill in the art at the time of the invention was made to modify the device of Manne et al. to include a battery pack having a plurality cells arranged in a series as taught by Umeki et al. for charging the battery does not exceed a maximum current level.

As to claims 2 and 16, Mann et al in view of Umeki et al. are applied supra, and Mann et al. further disclose in column 9, lines 28-35, the cell monitor/regulator includes a comparator that compares a relative voltage potential across the first cell with respect to a reference voltage potential.

As to claim 6, Mann et al in view of Umeki et al. are applied supra, and Mann et al. further disclose in figure 1, column 4, lines 57-65, battery pack terminals located at respective opposing ends of the series-arranged cells, and a charging circuit, the terminals being connected to respective opposing leads of a charging circuit so as to charge the cells.

As to claim 7, Mann et al in view of Umeki et al. are applied supra, and Mann et al. further disclose in column 5, lines 25-29, the charging circuit includes a sense resistor located in line with one of the terminals, a voltage sensor that measures an overall voltage across the sense resistor and a regulator that determines a maximum current delivered to the battery pack by the charging circuit in response to a measured value the overall voltage (refer to col.5, lines 25-29).

As to claim 8, Mann et al in view of Umeki et al. are applied supra, and Mann et al. further disclose in Abstract, the charging circuit and the battery pack each receive current from a transcutaneous energy transmission (TET) module implanted in a body and the battery pack is adapted to be implanted in the body.

As to claims 9 and 26, Mann et al in view of Umeki et al. are applied supra, and Mann et al. further disclose in column 1, lines 5-10, the battery pack is operatively connected to a life-saving system implanted in the body.

As to claim 10, Mann et al in view of Umeki et al. are applied supra, and Mann et al. further disclose in column 1, lines 55-62, the life-saving system includes a heart

treatment device.

As to claim 27, Mann et al in view of Umeki et al. are applied supra, and Mann et al. further disclose in column 4, lines 34-40, the cells in a body and providing an external power source that transmits charging current to the cells.

As to claim 28, Mann et al in view of Umeki et al. are applied supra, and Mann et al. further disclose in column 3, lines 61-65, the step of providing the external power source includes transmitting energy through a skin layer of the body using induction.

4. Claims 3-5 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mann et al. (4,082,097), Umeki et al. (5,998,967) as discussed above, and further in combination with Bourbeau (5,666,040).

As to claims 3 and 17, Mann et al. and Umeki et al. discloses the elements as claimed, except for the cell monitor/regulator includes a voltage divider connected across the first cell and having an output connected to a first input of the comparator.

Bourbeau shows the cell monitor/regulator includes a voltage divider connected across the first cell and having an output connected to a first input of the comparator, and a reference voltage source that outputs the voltage potential to a second input of the comparator (refer to col.6, lines 32-35).

It would have been obvious to person having ordinary skill in the art at the time of the invention was made to modify the device of Manne et al. and Umeki et al. to include the cell monitor/regulator includes a voltage divider connected across the first cell and having an output

connected to a first input of the comparator as taught by Bourbeau for the purpose of properly charging the battery does not exceed a maximum current level.

As to claims 4, 18 and 19, Manne et al. and Umeki et al in view of Bourbeau are applied supra, and Mann et al. further disclose in column 9, lines 28-44, an output of the comparator is connected to a lead of the switch, the switch being constructed and arranged so that the switch closes when the comparator measures a voltage at the second input greater than a voltage at the first input.

As to claim 5, Manne et al. and Umeki et al in view of Bourbeau are applied supra, and Bourbeau further disclose in column 8, lines 37-40, the switch comprises a transistor that is variably saturated in response to an output of the comparator.

5. Claims 11, 14 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mann et al. (4,082,097) and Umeki et al.(5,998,967) as discussed above, and further in combination with Ostergaard et al. (5,994,878).

As to claims 11, 14 and 22, Mann et al. and Umeki et al. discloses the elements as claimed, except for the cells comprise lithium ion-type cells.

Ostergaard et al. disclose in column 1, lines 25-26, the cells comprise lithium ion-type cells.

It would have been obvious to person having ordinary skill in the art at the time of the invention was made to modify the device of Manne et al. and Umeki et al. to include the cells

comprise lithium ion-type cells as taught by Ostergaard et al. for the purpose of improving the charging battery.

Allowable Subject Matter

6. Claims 29-34 are allowed

Claim 29 is allowable. The reasons for allowance is that the prior art of record fails to disclose or reasonably suggest a plurality of cells, each of the cells being interconnected in a series line between 3 a pair of opposing battery pack-end terminals adapted to receive a charge current on the 4 series line; s a respective cell monitor/ regulator connected across each of the cells for measur6 ing a charge of the each of the cells; and a respective shunt bridge connected across each of the cells including a switch 8 that selectively closes the shunt bridge to direct the charge current around the cell through 9 the series line in response to a measurement of the charge of each of the cells by the to monitor/regulator. It is these features found in the claim, as they are claimed in the combination, which has not been found, taught or suggested by the prior art of record, which makes this claim allowable over the prior art.

Claims 30-32 are allowed due to their dependency on claim 29.

Claim 33 is allowable. The reasons for allowance is that the prior art of record fails to disclose or reasonably suggest an implanted TET module for receiving energy through the skin and transmitting electricity derived from the energy to a life-saving device; and an implanted rechargeable battery pack including a battery pack having a plurality of series-arranged cells, having a bridge connected around a first cell, including a bypass resistor in series with a switch, and a cell monitor/regulator having an input connected across the first cell for measuring a

charge of the first cell, wherein the cell monitor/regulator closes the switch when a charge of the first cell equals a maximum value. It is these features found in the claim, as they are claimed in the combination, which has not been found, taught or suggested by the prior art of record, which makes this claim allowable over the prior art.

Claim 34 is allowed due to its dependency on claim 33.

7. Claims 20, 21 and 23-25 are objected to as being dependent upon a rejected base claim. The prior art of record fails to teach or reasonably suggest that: Claims 20, a battery pack terminals at respective opposing ends of the series of the plurality of the cells, and connecting respective opposing leads of a charging circuit to the terminals at predetermined times so as to charge the plurality of cells. Claims 21, 24 and 25 are dependent on claim 20. Claim 23, the monitoring each of the cells based upon an input connected across each of the cells for measuring a charge of the each of the cells respectively, and providing a bridge around the each of the cells, the bridge including a respective bypass resistor and a respective switch and closing the respective switch when the charge of the each of the cells equals a maximum value so as to shunt charge current around the each of the cells through the respective bypass resistor. Claims 20, 21 and 23-25 would be allowable if rewritten in independent from including all of the limitations of the base claim.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence Luk whose telephone number is (703)305-0617. The examiner can normally be reached on 7 a.m. to 5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on (703) 308-1680. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-7724 for regular communications and (703)305-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-1782.

LWL
September 29, 2004

Lawrence Luk
examiner
9/29/04